Students take a field trip to Mars

A student from White Sands Elementary measures a sheet of plastic. The plastic will be cut, folded, duct taped and inflated for form part of a Martian colony.

Left: Students from White Sands Elementary examine the food they've packed for their trip to Mars. Teams were required to pack foods from each of the four food groups.

Below: Judges weigh food packed by Fairacres Elementary students. Students were restricted to a weight limit when packing for each planned meal on Mars.

by Ms. Laura Pellegrino
Sunburst staff writer

For several weeks, 180 local fifth-graders have been preparing for a school trip. They've learned about the history and geography of their destination, planned what they'd have for meals during their stay, and engineered a suitable habitat.

On March 19, they finally packed their bags, got on a school bus and headed to Mars.

Or, at least they simulated heading to Mars.

The students, from Fairacres Elementary, Central Elementary, White Sands Elementary, and White Mountain Intermediate were participants in the Air Force Research Laboratory's Mars Mission, which took place at Basic Expeditionary Airfield Resources base.

The Mars Mission is based on "Marsville: the Cosmic Village," a classroom-based simulation of Mars colonization developed by the Challenger Center for Space Science Education.

AFRL's Mars Missions combine Air Force technologies with the Marsville curriculum to provide a unique learning opportunity for fifth-grade students.

The 46th Test Group, 49th Materiel Maintenance Group and the Holloman Solar Observatory assisted with the project. Students used math, science, engineering, communication and the arts to accomplish their mission.

"I think having kids do things like this is a good way to get them excited about learning," said Mr. Pleddie Baker, NASA Technology and Education Outreach technical assistant. "They learn a lot and they retain a lot, rather than just memorizing for a test."

Students were required to complete three tasks to make their mission a success.

For the engineering component, teams of students designed and constructed a model of a life-support system to sustain their Martian colony. Life-support systems include air supply, waste management, food production, recreation, communication, transportation, temperature control and water supply.

During the mission, students explained how their life-support systems worked to a panel of judges.

For the technology component, each team was grouped with teams from two other schools to form a habitat crew. On mission day, the habitat is built using large sheets of plastic which are cut, folded, duct taped and inflated using a fan.

The fine arts component requires teams to create a mission patch and write a saga describing their journey from Earth to Mars.

Most schools told their saga to the tune of a popular song, like "This planet is my planet, this planet is your planet," or "Ain't no mountain high enough to keep me away from Mars."

Students also learned to improvise and solve problems, said Ms. Robin Herndon, White Sands Elementary teacher.

A group from Ms. Herndon's school accidentally packed blank sheets of plastic instead of the plastic that they'd decorated for the mission. When they began to set up their habitats, they quickly pulled out markers to remake their designs.

"This teaches them they can solve a problem when they get here too," Ms. Herndon said.

According to Mr. Baker, cooperation and teamwork are important to the Mars Mission.

"We as people tend to stay in one area and don't get that kind of exposure," Mr. Baker said. "It's great that they're doing different things with other schools."

Photos by Laura Pellegrino

Students from Fairacres Elementary explain the purpose of their Mars Mission patch to Maj. John Cornicelli and Col. Joseph Zeis. To successfully complete their Mars Mission, students had to combine math, science, engineering, communication and artistic skills.

Left: A team of Fairacres, White Sands, and Central Elementary students hold up their habitat while it's inflated by a fan.

Right: A Fairacres student duct tapes a sheet of plastic that will be inflated into a Martian habitat. Once several habitats are inflated, tunnels connect them to each other.